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Process Motivation as a Factor of Sports Activity Self-Regulation

Abstract: In the modern sports environment, athletes' motivation is a key factor that affects their performance, stress resistance, and ability to self-regulate. Of particular importance is procedural motivation, which focuses on the enjoyment of the process of sports activity and not only on achieving the final result or external rewards. At the same time, the study of its specificity and mechanisms of influence on self-regulation and performance of athletes remains insufficiently developed. The purpose is to analyse current approaches to the definition of procedural motivation, investigate the relationship between procedural motivation, self-regulation and performance in sport, and develop recommendations for increasing the level of procedural motivation as a tool for supporting self-regulation in athletes. The paper applies theoretical analysis of scientific sources, generalising modern approaches to studying motivation in sports activities. A systematic approach was also used to establish the relationship between procedural motivation, self-regulation and performance. The study confirmed that procedural motivation is an essential component of sports activity, which contributes to forming self-regulation skills, such as emotion control, concentration and adaptability to external conditions. Procedural motivation has been found to form athletes' sustained interest in the training process, providing them with psychological stability in stressful situations and high involvement in sports activities. It has been determined that the effectiveness of procedural motivation depends on integrating personal and situational factors, including the coach's style of work, training conditions and social interaction. The article substantiates the importance of procedural motivation in supporting self-regulation in athletes. Recommendations for coaches and psychologists are developed, which include the creation of a favourable emotional climate, the use of methods to stimulate intrinsic motivation, the provision of social support and the introduction of psychological training.

Keywords: physical fitness, psychological stability, maintaining internal balance, emotional stress, goal achievement.

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Процесуальна мотивація як чинник саморегуляції спортивної діяльності

Анотація: У сучасному спортивному середовищі мотивація спортсменів є ключовим чинником, що впливає на їхню результативність, стійкість до стресу та здатність до саморегуляції. Особливого значення набуває процесуальна мотивація, яка орієнтована на задоволення від самого

процесу спортивної діяльності, а не лише на досягнення кінцевого результату чи зовнішніх винагород. Водночас дослідження її специфіки, механізмів впливу на саморегуляцію та результативність спортсменів залишаються недостатньо опрацьованими. Метою дослідження є аналіз сучасних підходів до визначення процесуальної мотивації, дослідження зв'язку між процесуальною мотивацією, саморегуляцією та результативністю у спорті, а також розробка рекомендацій для підвищення рівня процесуальної мотивації як інструмента підтримки саморегуляції у спортсменів. У роботі застосовано теоретичний аналіз наукових джерел, узагальнення сучасних підходів до вивчення мотивації у спортивній діяльності. Також використано системний підхід для встановлення взаємозв'язків між процесуальною мотивацією, саморегуляцією та результативністю. Дослідження підтвердило, що процесуальна мотивація є важливим компонентом спортивної діяльності, який сприяє формуванню навичок саморегуляції, таких як контроль емоцій, підтримка концентрації та адаптивність до зовнішніх умов. Виявлено, що саме процесуальна мотивація формує у спортсменів стійкий інтерес до тренувального процесу, забезпечуючи їм психологічну стійкість у стресових ситуаціях і високу залученість у спортивну діяльність. Визначено, що ефективність процесуальної мотивації залежить від інтеграції особистісних і ситуативних факторів, включаючи стиль роботи тренера, умови тренувань та соціальну взаємодію. У статті обгрунтовано значущість процесуальної мотивації як чинника підтримки саморегуляції у спортсменів. Розроблено рекомендації для тренерів і психологів, які включають створення сприятливого емоцийного климату, застосування методів стимулювання внутрішньої мотивації, забезпечення соціальної підтримки та впровадження психологічних тренінгів.

Ключові слова: фізична підготовленість, психологічна стійкість, підтримка внутрішнього балансу, емоційні навантаження, досягнення цілей.

Abbreviations:

SDT is the self-determination theory.

Introduction

Modern sports activities are characterised by high competition, requiring athletes to be physically prepared and maintain psychological resilience and effective self-regulation. One of the key factors influencing success in sports is motivation. However, research in this field has predominantly focused on analysing external and substantive motivation, while processual motivation—defined as the orientation toward deriving enjoyment from the activity itself remains insufficiently studied.

Processual motivation is important because it can support internal balance and help athletes overcome emotional, physical, and psychological challenges during training and competitions. At the same time, its impact on athletes' capacity for self-regulation, which is fundamental to achieving sports goals, requires more profound analysis. The lack of theoretical and empirical data on this issue complicates the development of practical approaches to enhancing athletes' motivational background and self-regulation levels.

Thus, the relevance of studying processual motivation as a factor in self-regulation in sports activities is driven by the need for a deeper theoretical understanding of this phenomenon and the development of practical recommendations for coaches, psychologists, and athletes striving for high achievements in their sports careers.

The issue of athlete motivation and its influence on self-regulation in sports activities is a significant topic in modern sports psychology. A substantial body of research has focused on analysing external and substantive motivation, including the works of Roztorhui et al. (2022) and Diachenko and Tishchenko (2023). These studies have substantiated the importance of internal and external motivational factors and have contributed to the development of self-determination and expectancy theories, which explain the relationship between motivation and success.

Some authors, including Zhdaniuk, Lukova (2019) and Kuzikova (2021), emphasise the impact of intrinsic motivation in promoting athletes' psychological well-being, overcoming stress, and maintaining consistent engagement in the training process. Other studies, such as those by Skybytskyi et al. (2016) and Khurtenko and Bortun (2019), describe motivational profiles that influence athletic performance based on athletes' goals.

However, processual motivation, which is centered on the enjoyment derived from the activity itself, remains insufficiently explored. Only a few authors, such as Tyshchenko (2013) and Rochniak (2018), have examined the phenomenon of "flow" as a processual aspect. Still, their work mainly focuses on general psychological factors rather than the specifics of sports activities.

As a result, contemporary academic literature lacks comprehensive studies on the role of processual motivation as a factor of self-regulation in athletes. The scarcity of empirical data on the relationship between processual motivation, self-regulation strategies, and performance outcomes creates research gaps that require further investigation.

The purpose aims to determine the role of processual motivation in self-regulation in sports activities and justify its impact on athletes' emotional states, stress resistance levels, and effectiveness in achieving sports results.

Based on the purpose, the following tasks were:

- analyse modern approaches to defining processual motivation and its differences from other types of motivation (substantive and external);
- identify specific mechanisms linking processual motivation, self-regulation, and performance in sports activities;
- develop recommendations for coaches and psychologists on enhancing processual motivation to support self-regulation in athletes.

Results

Motivation is one of the central concepts in psychology, which defines a person's drive to action, shapes their behaviour, and determines the goals and direction of their activity (*Tyshchenko, 2013, p. 214*). In psychological literature, motivation is considered a multidimensional phenomenon encompassing internal and external stimuli that trigger an individual's activity and form motives that underlie their actions (*Ivanenko & Oksa, 2021, pp. 156-157*). This concept explains the mechanisms of purposeful human behaviour, which is fundamental to understanding their life activity.

In psychology, motivation is viewed as a process that integrates various mental phenomena: needs, instincts, motives, emotions, and attitudes (*Panchuk et al., 2024, p. 124*). It has three key functions: activating, directing, and regulating, which determine its impact on human behaviour.

Motivation is unique in sports, requiring significant physical and psychological effort, selfdiscipline, and stress resistance (*Rochniak*, 2018, p. 77). Psychologists note that motivation is one of the key conditions for achieving high results in sports (*Perepelytsia et al., 2022, p. 91*). A. Maslow believed that understanding the ways of forming achievement motivation is a prerequisite for the effective organisation of training and competitive processes (*Panchuk et al., 2024, p. 124*). In particular, achievement motivation is considered a personal factor that contributes to increasing the effectiveness of sports activities and achieving high results.

According to V. Antonets and Y. Kozak, sports motivation is an athlete's psychological state, which reflects their attitude to various sports activities: goals, expected results, successes and failures, partners and coach (*Antonets & Kozak, 2016*). Thus, motivation, as a fundamental psychological process, manifests in various forms and types, reflecting the diversity of motivating factors that determine human activity (*Lukova & Fomenko, 2021, p. 162*). Two approaches to understanding motivation are fundamental in sports activities: procedural and content-related. These types of motivation have different effects on an athlete's behaviour, their ability to overcome difficulties, maintain high performance, and retain interest in the training process.

Procedural motivation is an important aspect of sports activity that defines an athlete's driving forces for self-realisation through training or competition, not just the final result. It focuses on the satisfaction of the action process, performing physical exercises, improving technique, and developing personal qualities. This type of motivation is oriented towards internal satisfaction from the activity, towards achieving internal goals, such as increasing self-confidence, improving skills, or maintaining physical condition. Procedural motivation contributes to resilience and self-regulation, as the athlete does not focus only on results, but receives emotional and psychological satisfaction from the training process or participation in competitions. It is an important factor that helps maintain a high level of motivation even in difficult moments when external incentives (such as victories or awards) may be absent.

Unlike procedural motivation, content-related motivation is focused on the final result or achieving a specific goal. It motivates those who strive to achieve specific, external results, such as victories, medals, recognition, or material rewards. A person motivated by content usually works to achieve a specific final result, which may be less important or exhausting. It is more dependent on external factors that ensure the achievement of this goal. Thus, the main difference between procedural and content-related motivation is that procedural motivation focuses on the satisfaction of the activity itself, and content-related motivation focuses on the final result of this activity. The Appendix (*Table 1*) provides more detailed information on this.

These two types of motivation are not mutually exclusive. They can complement each other, but procedural motivation is often considered more stable, as it does not depend on external factors and helps maintain interest even in difficult situations.

Procedural motivation of athletes of different levels and age groups has unique features that affect their involvement in the training process and the desire to achieve their goals. It is based on the satisfaction of the activity process, not just its final result. This satisfaction can manifest in sports through the joy of movement, enthusiasm for the training process, or even a sense of unity with the team. For coaches and educators, understanding the specifics of procedural motivation is key to creating a harmonious environment where every athlete feels valued and inspired. For novice athletes, procedural motivation is often the primary driving force. It is based on curiosity about the new and the joy of performing physical exercises. At this stage, the foundations of attitude towards sports are laid. The coach or teacher must maintain this interest using game elements, positive reinforcement, and task variety. When children or beginners enjoy the process, they are more likely to return to training, maintaining enthusiasm and a desire to develop.

For mid-level athletes, procedural motivation takes on new meaning. They begin to understand their goals and capabilities better. At this stage, it is important to maintain interest in the training process while complicating tasks and focusing on self-improvement. Coaches can stimulate such athletes by emphasising their progress, new techniques, or the opportunity to participate in competitions. The main task is to ensure that each training session is perceived as a step towards achieving more, but without losing the pleasure of the process itself.

For professional athletes, procedural motivation retains its importance but becomes part of a more complex motivation system. At this level, athletes often enjoy the details: improving technique, overcoming their limitations, and working together with a team or coach. However, the risk of burnout is relatively high here, especially if the training process becomes monotonous or the focus shifts exclusively to achieving results. Therefore, it is important to introduce variety into training, maintain psychological comfort, and remind athletes of the joy that sports bring.

The age of athletes also plays an important role in forming procedural motivation. It is most associated with children and adolescents' natural desire to play and interact. For them, training should be fun, exciting, and socially engaging. Young people on the threshold of adulthood begin to focus more on their achievements, but also appreciate the process that allows them to feel stronger and more confident.

Adult athletes often find a balance in procedural motivation between striving for results and the pleasure of movement. For them, sports become a way to achieve goals and a source of harmony, stress relief, and physical fitness maintenance. At the same time, elderly athletes perceive procedural motivation as a way to stay active, maintain health, and preserve the joy of life.

The relationship between procedural motivation and the ability to self-regulate in a sports context is one of the key aspects that determines the effectiveness of the training process and the achievement of athletes' goals (*Piankivska, 2020*). Procedural motivation, which is based on satisfaction from the process of sports activity itself, serves as an important foundation for the formation and maintenance of an athlete's ability to self-regulate.

Self-regulation in sports involves the athlete's ability to independently control their emotions, behaviour, and efforts, adapting them to the demands of the training process or competitions. Procedural motivation, which focuses on the positive perception of the activity itself, creates conditions for deeper immersion in training and increases the athlete's internal discipline. As a result, athletes become more responsible and motivated to control their actions and effectively manage their energy.

The interaction of external and internal factors also plays a significant role in forming selfregulation. External conditions, such as the organisation of the training process, support from the coach, and stimulation, create a foundation for meeting the athlete's needs. At the same time, internal factors, including personal characteristics such as self-confidence and a tendency towards positive motivation, affect how the athlete responds to these conditions.

An athlete who finds satisfaction in procedural motivation is more likely to use effective self-regulation strategies. For example, they are more inclined to plan their training, analyse results, and independently adjust actions to achieve their goals. This allows them to balance tension and rest, which is key to maintaining high athletic performance and avoiding burnout.

In addition, procedural motivation stimulates the athlete to overcome challenges and develop adaptive self-regulation mechanisms. Completing complex tasks and the satisfaction of overcoming difficulties contribute to strengthening self-confidence and increasing stress resistance. This, in turn, helps the athlete effectively manage their attention and resources in competitions or intense training.

It is also important to note that the ability for self-regulation is enhanced by motivational stimuli that create a favorable environment for developing self-control skills. For example, positive reinforcement, praise from a coach, or even success in completing a training task increase interest in sports activities. This fosters a sense of internal control, where an athlete follows the coach's instructions and makes independent decisions regarding personal progress.

The relationship between procedural motivation and self-regulation in sports can be better understood by analysing existing procedural motivation theories, which have practical applications in sports activities (*Table 2*). Understanding these concepts allows us to identify how different aspects of motivation influence an athlete's ability to effectively regulate their behaviour, adapt to changes, and maintain consistent engagement in training and competition.

One of the most well-known theories is Vroom's expectancy theory, which explains how motivation is formed through the relationship between an athlete's expectations, achievement of results, and rewards (*Slobodianiuk, 2020*). Self-regulation in this context is expressed through conscious planning and effort allocation. For example, an athlete who believes that regular training will improve their performance demonstrates higher self-discipline and the ability to overcome obstacles. Significantly, coaches can deliberately shape these expectations by emphasising specific results that can be achieved through dedicated effort.

Another theory worth considering is Adams' equity theory, which highlights the importance of an athlete's perception of fairness in conditions and rewards (*Slobodianiuk, 2020*). When athletes feel that their efforts are undervalued, their ability to self-regulate may decline due to a loss of motivation. This is particularly relevant in team sports, where success depends on coordinated group efforts, and perceived inequality can cause conflicts. Ensuring fairness helps harmonise internal processes and allows athletes to focus on self-improvement.

Locke's goal-setting theory also deserves attention, emphasising the importance of clear and challenging goals. This concept relates to self-regulation because achieving ambitious goals requires athletes to concentrate, be patient, and control their emotions. For example, improving the execution of a complex gymnastics element necessitates step-by-step planning and continuous analysis of personal progress. For coaches, goal formulation should be as specific as possible and consider each athlete's characteristics.

The SDT also plays a key role in understanding the relationship between motivation and self-regulation. This theory underscores the significance of intrinsic motivation, which arises when three basic psychological needs are satisfied: autonomy, competence, and social involvement. Self-regulation manifests in athletes' ability to make independent decisions, set priorities, and solve problems. For instance, when athletes can choose their training style or schedule, it increases their responsibility for personal development and strengthens intrinsic motivation.

Finally, Weiner's attributional motivation model explains how athletes interpret their successes and failures (*Slobodianiuk*, 2020). If an athlete attributes victory to their efforts, it reinforces their self-belief and promotes self-regulation skills. Conversely, attributing failures to external factors (e.g., unfair judging) can reduce motivation and weaken emotional control. In this context, coaches and psychologists must help athletes develop an optimistic attributional style that fosters self-confidence.

To enhance procedural motivation as a tool for supporting self-regulation in athletes, coaches and sports psychologists should implement comprehensive approaches that consider individual athlete characteristics, the specifics of the sport, and age, social, and psychological factors.

First, it is essential to create conditions that foster intrinsic motivation. This can be achieved by granting athletes autonomy in choosing how to achieve their goals, formulating tasks that align with their abilities and skill level, and fostering a sense of belonging to a team. Coaches should encourage athletes to take an active role in planning the training process and making decisions regarding tactics and preparation strategies, creating an environment where they feel valued and significant.

Second, special attention should be given to setting clear, specific, and achievable goals. Goal-setting theory suggests that ambitious yet realistic tasks stimulate athletes to mobilise internal resources, develop self-regulation skills, and improve focus on training tasks. Coaches are advised to periodically adjust goals in line with an athlete's progress, which helps maintain high motivation and prevent disappointment in case of setbacks.

Third, emotional support and creating a positive emotional climate during training play a crucial role. Praise for achievements, even minor ones, and constructive criticism aimed at development rather than punishment help athletes form a positive attribution of success and failure. Psychologists should conduct training sessions to build self-confidence, reduce precompetition anxiety, and strengthen intrinsic motivation.

Additionally, fostering social interaction within a team is an important tool. Group tasks, team-building exercises, and collaborative problem-solving contribute to developing a sense of responsibility for personal results and the team's success. This positively influences the formation of values centred on support and cooperation and enhances motivation through social engagement.

Finally, psychological training techniques should teach athletes self-regulation methods, such as autogenic training, success visualisation, attention control, and emotional management. These methods help athletes better understand their internal states, respond more effectively to stressful situations, and develop stable behavioural patterns that contribute to achieving high results.

Conclusion

The article analyses modern approaches to defining procedural motivation, its essence, and its role in sports activities. It has been established that procedural motivation is unique, distinct from intrinsic and extrinsic motivation. It focuses on the process of performing activities itself, fostering satisfaction from training and competition, which enables athletes to maintain stable engagement and effectiveness even in the absence of external rewards or final results. Intrinsic motivation, oriented toward goal achievement, and extrinsic motivation, dependent on incentives or sanctions, play a supplementary role but cannot fully replace the impact of procedural motivation.

The article also identifies mechanisms linking procedural motivation, self-regulation, and sports performance. Procedural motivation has been proven to be a fundamental factor in shaping athletes' self-regulation abilities. By focusing on the process of activity, athletes develop skills in self-awareness, emotional control, maintaining concentration, and resilience to stress. These aspects significantly determine their performance in sports competitions. Furthermore, self-regulation in the context of high procedural motivation enhances athletes' adaptability to changing training and competition conditions.

Based on the obtained results, practical recommendations have been developed for coaches and sports psychologists to enhance the level of procedural motivation in athletes as a tool for supporting their self-regulation. In particular, the importance of creating conditions that ensure athletes' autonomy in decision-making, setting clear and achievable goals, fostering a positive emotional climate, and promoting social interaction within teams has been emphasised. Implementing psychological training to develop self-regulation skills and actively using methods to stimulate intrinsic motivation through praise, encouragement, and constructive feedback is recommended.

Thus, the study results highlight the significance of procedural motivation in ensuring high sports performance and contribute to a better understanding of its role in developing selfregulation skills. Implementing the proposed recommendations in coaching and psychological practice will facilitate the harmonious development of athletes, providing them with sports success and psychological well-being.

Future research prospects include an in-depth study of the mechanisms linking procedural motivation with other psychophysiological aspects of athletes' self-regulation, an analysis of the effectiveness of the proposed recommendations in different sports, and the development of differentiated approaches to motivation based on age, gender, and level of sports mastery.

Conflict of interest

The author declares that there is no conflict of interest.

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Appendix

Table 1. Comparison of Procedural and Content Motivation by Main Characteristics

Procedural Motivation	Meaningful Motivation		
Main Focus			
In the process of activity, enjoying the	On the final result (goals, achievements)		
performance of an action			
Source of Pleasure			

Pleasure from the process itself, improvement	Satisfaction from achieving a goal (e.g., winning,			
	rewarding)			
Motivating Factor				
Internal experiences, well-being, and emotional	External incentives (material rewards,			
connection with activities.	recognition, competition)			
Emotional Component				
Positive emotions that arise during the process.	Emotions associated with the result (joy from			
	winning, disappointment from losing)			
Dependence on External Factors				
Independent of external factors, focused on the	Depending on external factors, such as awards			
internal process.	or performance evaluation			
Degree of Motivation Stability				
High stability, because it does not depend on the	May be less resilient without a clear goal or			
result.	external reward			
Type of activity				
Assessment of the process of performing	Assessment of the final goal achievement			
activities (training, technique).	(Victory, Records)			
Impact on Self-Regulation				
Maintaining motivation through inner pleasures	Can lead to stress and burnout without achieving			
reduces stress and exhaustion.	the goal			
Source: author's development				

Source: author's development

Table 2. Fundamental Theories of Procedural Motivation and Their Relationship with Self-Regulation in
Sports

The Main Idea	Connection with Self- Regulation	Practical Application in Sports
Motivation depends on the athlete's expectations of results and rewards.	Form conscious planning, distribution of efforts, and increased self-discipline.	Create realistic expectations and set achievable goals.
The importance of a sense of equality in terms of conditions and rewards	A sense of Justice supports motivation and harmonises the inner state of the athlete	Ensuring transparency of remuneration and equal treatment of all athletes in the team.
Clear and ambitious goals help increase motivation.	Promotes the development of concentration, patience, and emotional control when achieving complex tasks	Formulation of specific goals according to athletes' abilities
Motivation arises when basic needs are met: autonomy, competence, and social engagement.	Develops responsibility, increases engagement and internal motivation.	Providing athletes with the opportunity to choose and be independent in training
Motivation depends on how athletes explain their successes or failures	Positive attribution (success through your efforts) builds confidence and the ability to control your emotions	Teaching athletes an upbeat attribution style by analysing their successes and failures

Source: Compiled by the author based on (Slobodyanyuk, 2020)